

# Boca Semiconductor Corp.

## BSC

**Switching And Linear Application DC to VHF Amplifier Applications**

### ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	2N2906A, 07A	UNIT
Collector -Emitter Voltage	VCEO	60	V
Collector -Base Voltage	VCBO	60	V
Emitter -Base Voltage	VEBO	5.0	V
Collector Current Continuous	IC	600	mA
Power Dissipation @ Ta=25 degC	PD	400	mW
Derate Above 25deg C		2.28	mW/deg C
@ Tc=25 degC	PD	1.8	W
Derate Above 25deg C		10.3	mW/deg C
Operating And Storage Junction Temperature Range	Tj, Tstg		deg C

### ELECTRICAL CHARACTERISTICS (Ta=25 deg C Unless Otherwise Specified)

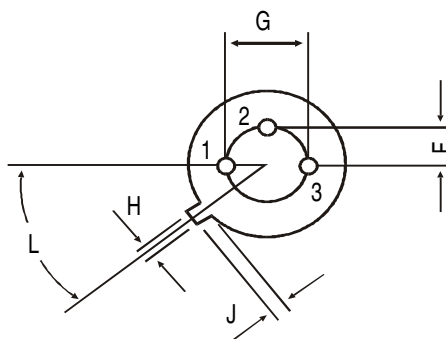
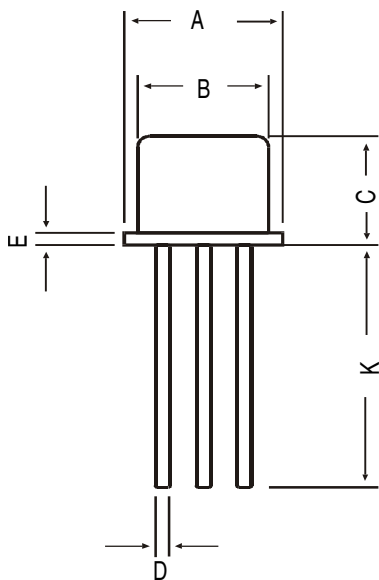
DESCRIPTION	SYMBOL	TEST CONDITION	VALUE		UNIT
			MIN	MAX	
Collector -Emitter Voltage	VCEO*	IC=10mA, IB=0	60	-	V
Collector -Base Voltage	VCBO	IC=10uA, IE=0	60	-	V
Emitter-Base Voltage	VEBO	IE=10uA, IC=0	5.0	-	V
Collector-Cut off Current	ICBO	VCB=50V, IE=0	-	10	nA
		Ta=150 deg C			
		VCB=50V, IE=0	-	10	uA
	ICEX	VCE=30V, VBE=0.5V	-	50	nA
Base Current	IB	VCE=30V, VBE=0.5V	-	50	nA
Collector Emitter Saturation Voltage	VCE(Sat)*	IC=150mA, IB=15mA	-	0.4	V
		IC=500mA, IB=50mA		1.6	V
Base Emitter Saturation Voltage	VBE(Sat)*	IC=150mA, IB=15mA	-	1.3	V
		IC=500mA, IB=50mA	-	2.6	V
			<b>2N2906A</b>	<b>2N2907A</b>	
DC Current Gain	hFE	IC=0.1mA, VCE=10V	>40	>75	
		IC=1mA, VCE=10V	>40	>100	
		IC=10mA, VCE=10V	>40	>100	
		IC=150mA, VCE=10V*	40-120	100-300	
		IC=500mA, VCE=10V*	>40	>50	

<b>Transition Frequency</b>	ft **	IC=50mA, VCE=20V, f=100MHz	200	-	MHz
<b>Out-Put Capacitance</b>	Cob	VCB=10V, IE=0, f=100kHz	-	8.0	pF
<b>Input Capacitance</b>	Cib	VBE=2V, IC=0, f=100kHz	-	30	pF
<b>Switching Time</b>					
<b>Delay time</b>	td	IC=150mA, IB1=15mA	-	10	ns
<b>Rise time</b>	tr	VCC=30V	-	40	ns
<b>Turn-On Time</b>	ton			45	ns
<b>Storage time</b>	ts	IC=150mA, IB1=IB2=15mA	-	80	ns
<b>Fall time</b>	tf	VCC=6V	-	30	ns
<b>Turn-Off Time</b>	toff			100	ns

\*Pulse Test :-Pulse Width=300us, Duty Cycle=2%

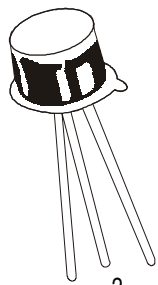
\*\*ft is defined as the frequency at which  $h_{fe}$ / extrapolates to unity

### TO-18 Metal Can Package



All diminsions in mm.

DIM	MIN	MAX
A	5.24	5.84
B	4.52	4.97
C	4.31	5.33
D	0.40	0.53
E	—	0.76
F	—	1.27
G	—	2.97
H	0.91	1.17
J	0.71	1.21
K	12.70	—
L	45 DEG	



#### PIN CONFIGURATION

1. EMITTER
2. BASE
3. COLLECTOR